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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/804,110

Applicant(s)

KAWATO, MASAHIRO

Examiner

MENGYAO ZHE

Art Unit

2195

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8500)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date 11/17/06, 6/8/06, 3/19/04

DETAILED ACTION

1. Claims 1-39 are presented for examination.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 5-16, 32, 34-39 are rejected under 35 U.S.C. 101 because the claimed invention, appearing to be comprised of software alone without claiming associated computer hardware required for execution, is not supported by either a specific and substantial asserted utility (i.e., transformation of data) or a well established utility (i.e. a practical application).

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. The following claim languages are not clear and indefinite:

i) Claim 1, line 8: it is uncertain what a valid time period is <i.e. how is a valid time period different from a tentatively reserved time period? Are they supposed to be the same time period? If so, consistent name should be used.>.

Lines 13-14: it is unclear what the "another tentative reservation request" is designating <i.e. is the other request designating a different resource at the same time as the "said tentatively reserved time period" or is it asking for the same resource in the same time period as the "a tentative reservation request" in lines 3-4, like a resource conflict?>.

Line 15: it is unclear what is meant by "issues information" <i.e. to whom or to where does the information get issued to? Does the entity making the request get to receive the information? Or is the information stored in a list?>.

Claims 17, 34, 38 have the same deficiencies as claim 1 above.

ii) Claim 3, it is uncertain what the relationship is between "an actually reserved time period" of line 7 and "said reservation time period" of line 8 <i.e. are they supposed to be the same thing? If so, consistent name should be used>.

Lines 8-10: it is uncertain what the relationship is between "a actually reserved time period" and "said tentatively reserved time period" <i.e. is there a time when the actually reserved time is not included in the

tentatively reserved time? How many different times does the tentatively reserved time include? Does it include a range of acceptable times, and the scheduler schedules the best time within that range?>

iii) Claim 5, lines 9-11: it is uncertain what is meant by "or storage of said tentative request" <i.e. this sentence is confusingly stated. Does it mean "or storing said request?" It appears that the second member is to receive or do something else. The sentence structure needs to be fixed.>

Lines 17-18: it is uncertain what is meant by "execution time period of each of said first resource" <i.e. are there multiple first resources? Or multiple sub-resources within the first resource?>

iv) Claim 7, it is uncertain if this is an independent claim or a dependent claim.

v) Claim 8, lines 11-13: it is uncertain what the two kinds of reservation requests are <i.e. are requests for tentative reservation and job reservation considered as the two kinds? If so, the sentence structure is confusing, it should say something along the lines of "two kinds of reservation requests that includes....">. Furthermore, it is not clear as to what the difference is between a job reservation and a tentative reservation <i.e. according to lines 30-32, both seem to be reserving for resources, if so what is the distinction between the two?>

Line 23: it is uncertain where or whom the information gets issue to.

It is uncertain what the relationship is between "a reservation time period" of line 35, "a tentatively reserved time period" of line 25, and "a validity time period" of line 27 <i.e. there are so many different time periods mentioned through out the claim, it is confusing how they are related to one another and how they differ from one another.>

Lines 37-40: it is unclear how the "reservation time period" may be changed to a reserved state <i.e. while time period A may be changed to time period B, it is confusing how the period may be changed to a state. What does it mean?>

Claims 5, 21, 23, 32, 33 have the same deficiencies as claim 8 above.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4, 8-20, 23-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruttenberg et al., Pub. No. 2002/0083185 (hereafter Ruttenberg).

7. As per claims 1, 17, 34, Ruttenberg teaches a resource management unit for managing one or a plurality of resources, comprising:

a first section that, upon accepting a tentative reservation request designating at least one resource (Para 26), changes a free time period of said designated resource to a tentatively reserved time period based on said tentative reservation request (Para 41), said first section storing therein information of a valid time period and a issuer of said tentative reservation request (Par 33, 39: since information about resource availability may be looked up by the scheduling module, it is inherent that the information is being stored.);

a storage unit for storing at least one said tentative reservation request in a wait queue disposed corresponding to each designated resource for which another tentative reservation request designating said tentatively reserved time period already exists (Para 32, 45); and

Ruttenberg does not specifically teach a second section that issues information of said tentatively reserved time period and a corresponding tentative reservation ID in response to said tentative reservation request.

However, Ruttenberg does teach a messaging system that communicates in order to schedule jobs by using information including scheduled job ID and the time period in which it is suppose to execute (Para 51, 52).

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to deduce that the messaging system that uses the information is a form of a second section that issues information and that the job ID and the job execution time period each corresponds to the reservation ID and the reserved time

period, since when one issues an information, it gets sent to a receiver, therefore when the system communicates the information between the sender and the receiver, information is being issued as of result.

8. As per claim 2, 18, 19, 35, 38, Ruttenberg teaches a third section that, upon accepting a tentative reservation cancel request designating said tentative reservation ID, cancels said tentative reservation time period to revive said free time period (Para 45).

9. As per claims 4, 20, 36, 37, 39, Ruttenberg teaches a fifth section that cancels said tentatively reserved time period for which said validity time period has expired to thereby revive said free time period (Para 42, 52); a sixth section that reads out said tentative reservation request stored in said wait queue, said sixth section changing said free time period revived by said fifth section to another tentatively reserved time period based on said read-out tentative reservation request (Para 45), said sixth section storing information of an issuer of said read-out tentative reservation request; and a seventh section that issues said another tentatively reserved time period changed by said sixth section and a corresponding tentative reservation ID to the issuer of said read-out tentative reservation request (Para 45, 52).

10. As per claims 3, 8, 23, 28, Ruttenberg teaches a distributed resource management system comprising: at least one resource management unit that manages one or a plurality of resources (Para 25, 27);

at least one job scheduler communicated with said at least one resource management unit, said job scheduler having a job reservation function including issuing a tentative reservation request for a plurality of resources to be used in a job (Para 30, 41), said resource management unit comprising:

a first section that receives two kinds of reservation requests for tentative reservation and job reservation, issued by said job scheduler, wherein said tentative reservation is a combinational operation of acquiring a reservation state of resources and trying to tentatively reserve resources, and is performed designating at least one resource managed by said resource management unit (Para 30, 31, 33, 41);

a second section that, if a resource for which said tentative reservation request received from said job scheduler does not have another tentative reservation and has a free time period thereof, sets a tentatively reserved state for said resource and issues information of said tentatively reserved state including a tentatively reserved time period in response to said tentative reservation request (Para 39);

a third section that stores a validity time period and information of said job scheduler having issued said tentative reservation request in connection with said tentatively reserved time period, wherein said job reservation includes an operation of reserving resources in advance for execution of a designated job and is performed via a

job reservation request designating at least one resource that is managed by said resource management unit and a reservation time period of said resource (Para 41, 48, 49: the resources are reserved and jobs, which corresponds to the data transfer, is carried out at scheduling intervals according to the scheduler),

a fourth section that accepts said job reservation request and changes the reservation time period specified by said job reservation request to a job reserved state if the specified time period is included in a tentatively-reserved time period (Para 33),

a fifth section that, when it reaches a start time specified by the job reservation, controls to allocate the resource for execution of the job and/or, when it reaches an end time specified by said job reservation, controls to release allocation of the resource to the job (Para 44, 45).

Ruttenberg does not specifically teach matching the issuer of said job reservation request to the issuer of the tentative reservation request.

However, since Ruttenberg teaches that the requester sends the deadline along with the resource request information and that the receiver is able to distinguish which request belongs to which requester (Para 52), it is obvious to one having ordinary skill in the art of resource management that the matching of the issuer of the request to the request itself has to be done in order to allocate the resources to the requester when the time comes for the allocation to be done, otherwise, no one will get the resources it needs at the right time.

11. As per claims 9, 12, 24, 29, Ruttenberg teaches wherein said resource management unit accepts two kinds of cancel requests including tentative reservation cancel request and a job cancel request issued corresponding to said two kinds of reservation requests by said job scheduler.

12. As per claim 10, 14, 25, 32, 33, Ruttenberg does teach a process of issuing a tentative reservation request to said resource management unit; a process of creating an execution schedule of the job for resources for which said tentative reservation was successful; and a process of issuing a job reservation request according to said execution schedule to said resource management unit.

Ruttenberg further teaches a user terminal communicated with said job scheduler (Para 30) and issuing a user terminal request (Fig 8A, End User Request).

13. As per claim 11, 13, 15, 26, 27, Ruttenberg teaches a schedule storage unit that stores, for each resource managed by said resource management unit, information of said job designating said each resource and the time period for which said each resource is reserved (Para 39); a tentative reservation request storage unit that has a wait queue for each resource managed by said resource management unit, wherein a waiting tentative reservation request for said resource is stored in said wait queue (Para 45); a tentative reservation request receiving section that receives a tentative reservation request from said job scheduler and stores information of the tentative

reservation in said schedule storage unit or said tentative reservation request storage unit (Para 30, 31); a job reservation request receiving section that receives a job reservation request from said job scheduler and stores information of the job reservation in said schedule storage unit (Para 32); and a schedule management section that monitors the information of the job reservation and the tentative reservation stored in said schedule storage unit and performs allocation and release of resources, and/or discard of said tentative reservation according to the information of said job reservation and said tentative reservation (Para 33, 34).

As per claim 16, 30, 31, Ruttenberg does not specifically teach wherein said first member of said job scheduler further controls such that, if the tentative reservation request does not become valid for the tentative reservation request in a predetermined time interval until, the process proceeds to said creation of said job execution schedule while excepting the resource corresponding to the tentative reservation request stored in said wait queue.

However, it would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to proceed to the next step, which can be a scheduling step if a predetermined period has ended for the purpose of increasing processing efficiency.

14. Claims 5-7, 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruttenberg et al., Pub. No. 2002/0083185 (hereafter Ruttenberg) in view of Bishop et al., Patent No. 5,826,082 (hereafter Bishop).

15. As per claims 5, 7, 21, Ruttenberg teaches a job scheduler communicated with at least one resource management unit for scheduling a job, said job controller comprising:

a first member that issues a tentative reservation request designating each resource of a plurality of resources to be used in a job (Para 30), to a resource management unit managing said each resource (Para 39);

a second member that receives a notification of a tentatively reserved state of said each resource or storage of said tentative reservation request in a wait queue in response to said tentative reservation request (Para 32);

a third member that assigns the job to at least one first resource, for which said tentatively reserved state is received and selected from among said plurality of resources (Para 41), to create a job schedule including an execution time period of each of said first resource (Para 42, 48);

a fourth member that issues a job reservation request for said first resource, to said resource management unit managing said first resource (Para 31);

a fifth member that issues a tentative reservation cancel request for said second resource, to said resource management unit managing said second resource (Para 45)

Ruttenberg does not specifically teach excluding at least one second resource among said plurality of resources.

However, Bishop teaches excluding at least one second resource among said plurality of resources for the purpose of allocating resources as needed in order to increase efficiency (Column 4, lines 29-35).

It would have been obvious to one having to one having ordinary skill in the art at the time of the applicant invention to modify the teachings of Ruttenberg with excluding at least one second resource among said plurality of resources, as taught by Bishop, because it allows for allocation of resources as needed in order to increase efficiency.

16. As per claims 6, 22, Ruttenberg teaches a sixth member that, after receiving a notification of storage of said tentative reservation request in said wait queue from said resource management unit, controls said third member to create said job schedule either after a designated time interval elapsed since receiving said notification without a further notification, or after receiving another notification that said tentative reservation request is taken out of said wait queue to said tentatively reserved state (Para 49).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MENG YAO ZHE whose telephone number is (571)272-6946. The examiner can normally be reached on Monday Through Friday, 7:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/VAN H NGUYEN/

Primary Examiner, Art Unit 2194